Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at http://about.jstor.org/participate-jstor/individuals/early-journal-content.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact support@jstor.org.

original condition. For mending, it had the advantage over most cements that no time was lost in allowing certain parts to dry, which had been united, before others could be added.

Dr. Hays announced the death of Prof. John K. Mitchell, M. D., late a member of the Academy.

April 13th.

Mr. Jeanes in the Chair.

Fifty-one members present.

A letter was read from Henry Hartshorne, M. D., Recorder of the Biological Department of the Academy, announcing its organization, and the selection of the first and third Mondays of each month as the time of meeting.

Dr. Leidy called the attention of the members to a drawing of a curious worm, which he said was obtained from the Schuylkill river, and was interesting from its being more nearly allied to marine forms than any other known fresh water species. It lives in tubes of mud; and is about a line in length. The body is divided into twelve annuli, including the head, which is cup-shaped, has two eyes, and supports on each side a process provided with seventeen cylindrical ciliated arms. The rings, except the head, are provided with four rows of bristles and two rows of podal hooks. The bristles are from four to six in a bunch; those anteriorly having a falcate extremity, and those posteriorly being whip-like. The anterior hooks are in series of five; and have a long handle with a lancet-like extremity. The posterior hooks are from fifteen to twenty in a series, and have a long handle with the extremity expanded and serrated on one side. It appears to be most nearly allied to the marine genus *Fabricia*. He proposed for it the name *Manayunkia speciosa*, from the Indian name of the river in which it was first discovered.

April 20th.

Vice-President Bridges in the Chair.

Thirty-six members present.

The following papers were presented for publication in the Proceedings:

Prodromus Descriptionis Animalium evertebratorum, &c., observavit et descripsit W. Stimpson, Pars. V. Crustacea Ocypodoidea.

Contributions to Helminthology, by Joseph Leidy, M. D.

And were referred to Committees.

Mr. Lea remarked that when, a few evenings since, Dr. Leidy made some observations on a few fossil Saurian and Batrachian bones, from the Red Sandstone of Gwynedd, 20 miles north of Philadelphia, and which were collected and presented by him and some other members, some observations were made by Mr. Lea on the epoch of that mass of red and gray sandstone rocks and blackslates. This formation is now assuming greater importance, and the interest in it has recently much increased by discoveries made by Major Hawn in Kansas Territory; descriptions of the fossil species, chiefly Mollusca, have been made by Messrs. Meek and Hayden and Prof. Swallow. No bones or foot prints have been observed by Major Hawn, but all the specimens of *Mollusca*, &c., indicate without any doubt their belonging to some portion of the *Permian Formation*.

The importance of the discovery of these rocks in Kansas cannot fail to impress our geologists, as the existence of any *Permian* in this country has been long and strenuously denied by nearly all the American geologists. Mr. Lea believed he was the first to suggest that the *Red Sandstone* of Connecticut, New Jersey, Pennsylvania, &c., bearing foot marks and other impressions of animal and vegetable life, were of Permian origin and older than the *Lias,*[*] but not older than the "New Red Sandstone"[†] of Europe, as supposed by Elie de Beaumont and Dr. Jackson; and in the memoir which Mr. Lea then read before this Academy, describing the *Clepsysaurus Pennsylvanicus*, of Upper Milford, Pennsylvania, he stated, in regard to the formation in which these bones were imbedded, that he was "inclined to place it among the superior strata of the *Permian* system."[‡] In 1834 Mr. R. C. Taylor considered the coal of the Lignites of Fredericksburg, Virginia to be "coeval with the Oolites."

In 1836 Prof. H. D. Rogers stated that those red sandstones which he characterized as *Middle Secondary Strata*, "implied a date somewhere intermediate between that of the coal and that of the green sand;"[§] and afterwards with his brother, Prof. W. B. Rogers and Sir Charles Lyell,[||] he considered that part of this system which containes the coal near Richmond, Virginia, was "closely related to the earliest deposits of the Oolite formation of Great Britain;" and he was disposed to add the whole of the red strata of his *Middle Secondary Red Sandstone* to these, and "assign them a position at or near the base of the great Jurassic system."[¶] In 1839, Mr. Gesner in his Geological Survey of the Province of New Brunswick, assigned the variegated Red Sandstone Rock of Saint Andrews, at the mouth of the St. Croix river, to the "Bunter Sandstone," the lowest member of the *Triassic.*[**]

The late Mr. Redfield long since regarded the fossil fishes found in the Connecticut sandstone as *Triassic;* and a few years since he stated at the meeting of the American Association at Cincinnati, that this formation was characterized by a flora and fauna as recent as the *Trias.* In this, Prof. Agassiz differed from him, as he placed this formation at the base of the *Liassic* series.

In a note, to a memoir on *Bathygnatus borealis* by Dr. Leidy,[††] Mr. Dawson in reference to the older rocks of Prince Edward Island, says, "these beds may either belong to the top of the carboniferous system, or to an overlying deposit of the Permian or Triassic age, and in either case the red sandstones which conformably overlie them will be equivalent to the New Red of Western Nova Scotia and Connecticut, and probably Triassic or Permian." These views tend to confirm Mr. Lea's, published several years before; and, subsequently Prof. Emmons, who thought in 1853,[‡‡] that the red sandstones of North Carolina belonged to the *Trias*, changed his views in 1856, and while confirming Mr. Lea's as regarded the existence of the *Permian*, divided the well marked beds of Deep River, in North Carolina[§§] into *Permian* and *Trias*, with their inferior divisions stating their equivalency to the European systems, and he considers the Chatham series of North Carolina, the Newark series of New Jersey, and the Greenfield series of Connecticut Valley, to represent one epoch belonging to the *Permian.* The Gwynedd series and that of Phœnixville, being evidently of the same horizon with the above mentioned, Prof. Emmons agrees with Mr. Lea, in referring these rocks to the *Permian* epoch, identified as they are in North

---

[*] Mr. Dawson, in Journ. Geological Soc., 1847, stated that the Red Sandstone of Prince Edward Island and Connecticut may be the same, and may be regarded as a post carboniferous deposit of uncertain age.

[†] Journ. Acad. Nat. Sci., May 11th, 1852, vol. 2, new series, p. 185.

[‡] Journ. Acad. Nat. Sci., vol. 2, new series, p. 195.

[§] Geology of New Jersey, p. 116.

[||] Journal Geological Society, 1847.

[¶] Johnston's Physical Atlas, p. 32.

[**] Page 15.

[††] Journal Acad. N. S. vol. 2, new series, page 330, 1854.

[‡‡] Geological Report on North Carolina, p. 272.

[§§] See his excellent and thorough Reports of 1856, 1857.

Carolina by the same *Saurian forms*, *plants*, *scales* of *fishes* and the (so called mollusc) *Posidonia*.

In 1855 Mr. Marcou published his " Carte Geologique des Etats-Unis," and in his explanations published at length, he gives an enormous extent on both sides of the Rocky Mountains to the Red Sandstone formation, which he divides into four sections. As to the *Red Sandstone* of New Jersey, he places it on a horizon with the Muschelkalk of Germany, the upper portion of the *Triassic*. (page 58.)

Mr. Lea stated that his chief reasons in 1852 for attributing to these deposits a greater age than was given to them by other American geologists, arose from the fact that the vertebræ and teeth of the *Clepsysaurus*, which he then described, were very analogous the *Thecodontosaurus antiquus*, described by Riley and Stutsbury from the *Magnesian limestone* of Bristol, New England.

More recently we have the opinion of Prof. Heer, of Zurich, distinguished for his knowledge of fossil plants and insects, who has examined specimens sent to him by Prof. Emmons. He states that these plants are characteristic of the *Keuper*, and that none of those of Virginia and North Carolina are really Oolitic. And it seems, too, that Sir Charles Lyell, who has examined so carefully and frequently these red sandstone rocks in America, has changed his former opinions, and come to the conclusion that the Richmond and North Carolina coal series belong to the " Permian, or else to the Bunter sandstone."*

In a communication made by Prof. Emmons to the American Association of Science last August, he said that the question of the Permian age of the bituminous slates and lower sandstones of North Carolina must turn upon the age of the Bristol beds of England, the epoch of which is doubted by some English geologists. Mr. Lea wished it to be remembered that his conclusions in 1852 were based on the almost universal opinion, in England, that the Bristol beds were Permian, and he referred the rocks in which were found his *Clepsysaurus* to the *same horizon*.

NOTE.—On the southern side, the New Red Sandstone of Pennsylvania commences on the river Delaware above Morrisville, opposite to Trenton, N. J., passing near Willow Grove, below Norristown, Phœnixville and Ephrata, it crosses the Susquehanna at Bainbridge. On the northern side it commences at Kentnerville, on the Delaware, about thirty miles above Morrisville, passing through Upper Milford township, it crosses the Schuylkill river about two miles below Reading, and passes out of the State at High Spire, above Middletown, the width here being reduced to about ten miles.

April 27th.

Vice President BRIDGES in the Chair.

Forty members present.

A summary of the transactions of the Biological Department was read, and the following papers reported for publication in the Proceedings by Committees of the Department, which reports were adopted :

Summary of the Transactions of the Biological Society, reported by Henry Hartshorne, M. D., Recording Secretary.

Blood Crystals of the Sturgeon, by S. Weir Mitchell, M. D.

The following papers were ordered to be published in the Proceedings:

---

*American Journal of Science, 2d series, vol. 24, p. 429.